

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning on page 7, line 16 with the following paragraph:

The first and second impairment correlation estimators 130, 140 may be any impairment estimator that estimates an impairment correlation matrix. Exemplary first and second impairment correlation estimators 130, 140 may include those described in U.S. Patent No. 6,363,104 ("Method and Apparatus for Interference Cancellation in a Rake Receiver" issued 26 March 2002), U.S. Patent Application Serial No. 09/344,899 ("RAKE Combining Methods and Apparatus Using Weighting Factors Derived from Knowledge of Spread Spectrum Signal Characteristics" filed 25 June 1999), and U.S. Patent Application Serial No. 10/800,167~~*/**/*~~,^{***} ("Method and Apparatus for Parameter Estimation in a Generalized RAKE Receiver", filed 12 March 2004, ~~attorney docket number 4015-5164~~), all of which are herein incorporated by reference. Additional exemplary impairment correlation estimators are also described in "Approaches for Fast Adaptive Generalized RAKE Reception" to Bottomley et al., in Research Disclosure, November 2003; "Performance of CDMA Mobile Communication Systems Using Antenna Arrays" to Suard et al., in Proc. IEEE ICASSP, 27-30 April 1993, pp. IV-153 through IV-156; and "Pilot Channel-aided Techniques to Compute the Beamforming Vector for CDMA Systems with Antenna Array" to Choi in IEEE Trans. Veh. Technol., vol. 49, pp. 1760-1775, September 2000.

Please replace the paragraph beginning on page 9, line 1 with the following paragraph:

To facilitate further discussion of the present invention, Figures 6 and 7 illustrate exemplary parametric and non-parametric estimators 130, 140, respectively. A parametric estimator 130 models one or more sources of interference based on the received signal and generates the parametric impairment correlation matrix \mathbf{R}_A based on these interference models. As described in U.S. Patent Application Serial No. 10/800,167~~*/**/*~~,^{***} ("Method and Apparatus

for Parameter Estimation in a Generalized RAKE Receiver”, filed 12 March 2004, ~~attorney~~
~~docket number 4015-5161~~) and shown in Figure 6, an exemplary parametric estimator 130
comprises a correlation computer 132, a structure element computer 134, a scaling parameter
estimator 136, and an impairment correlation calculator 138. Correlation computer 132 receives
the error vector **e** from the signal remover 122 and generates correlation measurements based
on the values in the error vector **e**. In general, correlation computer 132 multiplies each error
value in error vector **e** by the conjugates of another error value to produce the correlation
measurements. These correlation measurements may, for example, be the result of several
products averaged together over a CDMA time slot.